

LEH-35-98
U.S. Ser. No. 09/493,891

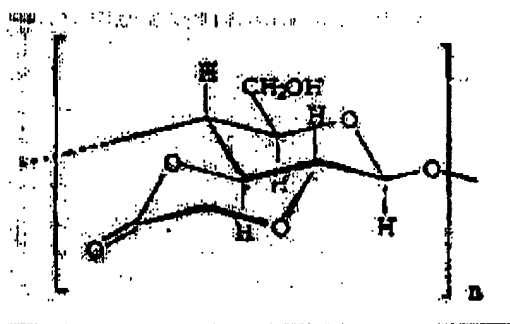
AMENDMENTS

To the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

1. (Currently Amended) A carboxymethyl cellulose compound according to the general formula schematically presented as:



wherein "n" is an integer from 500 to 2000, and wherein said polysaccharide carboxylic acid lactone is free of residual conjugation activators and chemical promoters.

2. (Currently Amended) A carboxymethyl cellulose compound according to Claim 1 wherein "n" is an ~~15~~ integer from 1000 to ~~15000~~ 1500.
3. (Previously Presented) A method for the synthesis of a lactone of polysaccharide carboxylic acids which comprises (i) providing the free acid form of the polysaccharide as a finely-powdered, anhydrous carboxylic acid with minimal sodium and potassium carboxylate content; (ii) lactonizing said polysaccharide by thermal dehydration in an anhydrous non-nucleophilic solvent; and (iii) collecting the resulting lactone product, wherein said polysaccharide carboxylic acid is selected from the group consisting of carboxy- and

Response to Office Action
Page 3 of 21

LEH-35-98
U.S. Ser. No. 09/493,891

carboxymethyl cellulose, carboxy- and carboxymethyl cyclodextrin, carboxy- and carboxymethyl starch, carboxy- and carboxymethyl chitosan, and pectin.

4. (Canceled)

5. (Previously Presented) A method according to Claim 3 wherein the solvent is selected from the group consisting of xylene, toluene, diglyme, and acetonitrile.

6. (Previously Presented) A method according to Claim 5 wherein the polysaccharide carboxylic acid is carboxymethyl-cellulose and the solvent is diglyme.

7. (Previously Presented) A method according to Claim 5 wherein the polysaccharide carboxylic acid is pectin acid and the solvent is toluene.

8. (Previously Presented) A method according to Claim 5 wherein the polysaccharide carboxylic acid is carboxymethyl-starch and the solvent is diglyme.

9. (Canceled)

10. (Withdrawn) A method of forming a polysaccharide carboxylic acid lactone conjugate which comprises (i) ring-opening a polysaccharide carboxylic acid lactone selected from the group consisting of carboxymethyl cellulose, carboxymethyl alpha- and beta- dextran, carboxymethyl starch, chitosan, O.N-Carboxymethyl, O-carboxymethyl, N-carboxymethylchitosan, carboxy-starch, and pectin lactones; and (ii) coupling said lactone with a compound having a biological response within a targeted end-user.

11. (Withdrawn) A method according to Claim 10 wherein ring opening is accomplished with a nucleophilic compound.

Response to Office Action
Page 4 of 21

LEH-35-98
U.S. Ser. No. 09/493,891

12. (Withdrawn) A method for the synthesis of a therapeutic compound comprising the step of conjugating a therapeutic agent to a carboxymethyl polysaccharide utilizing a reactive lactone of said carboxymethyl polysaccharide.

13. (Withdrawn) A method according of Claim 12 wherein the carboxymethyl polysaccharide is carboxymethyl cellulose, and wherein the therapeutic agent is selected from the group consisting of cisplatin, ellipticinium, aminoglutethemide, mitoxantrone, finasteride, vitamin E, alpha-difluoromethylornithine, mitoguazone, and nucleophilic chemotherapeutic agents.

14. (Withdrawn) A method for the synthesis of a conjugated polymer comprising the step of conjugating an agent to a carboxymethyl polysaccharide utilizing a reactive lactone of said carboxymethyl polysaccharide, and wherein said agent is selected from the group consisting of an imaging diagnostic capable of binding radioactive metal ions for nuclear imaging or paramagnetic metal ions for magnetic resonance imaging, fragrances, flavorants, cis 3-hexen-1-ol, and property modifiers.

15. (Canceled)

16. (Currently Amended) A polysaccharide carboxylic acid lactone product made according to a method for the synthesis of a lactone of polysaccharide carboxylic acids comprising:

- (i) providing the free acid form of the polysaccharide as a finely-powdered, anhydrous carboxylic acid with minimal sodium and potassium carboxylate content;
 - (ii) lactonizing said polysaccharide by heating in an anhydrous non-nucleophilic solvent;
- and
- (iii) collecting the resulting lactone product,

Response to Office Action
Page 5 of 21

LEH-35-98
U.S. Ser. No. 09/493,891

wherein said polysaccharide carboxylic acid is selected from the group consisting of carboxy- and carboxymethyl cellulose, carboxy- and carboxymethyl cyclodextrin, carboxy- and carboxymethyl starch, carboxy- and carboxymethyl chitosan, and pectin, and wherein said polysaccharide carboxylic acid lactone is free of residual ~~chemical~~ conjugation activators and chemical promoters.

17. (Previously Presented) A polysaccharide carboxylic acid lactone product made in accordance with the method of Claim 16, wherein said polysaccharide carboxylic acid is carboxymethyl cellulose.

18. (Previously Presented) A polysaccharide carboxylic acid lactone product made in accordance with the method of Claim 16, wherein said polysaccharide carboxylic acid is pectin.

19. (Previously Presented) A polysaccharide carboxylic acid lactone product made in accordance with the method of Claim 16, wherein said polysaccharide carboxylic acid is carboxymethyl starch.

20. (Previously Presented) A polysaccharide carboxylic acid lactone product made in accordance with the method of Claim 16, wherein said polysaccharide carboxylic acid is carboxymethyl cyclodextrin.

21. (Previously Presented) A polysaccharide carboxylic acid lactone product made in accordance with the method of Claim 16, wherein said polysaccharide carboxylic acid is carboxymethyl chitosan.

22. (Previously Presented) A polysaccharide carboxylic acid lactone product made in accordance with the method of Claim 16, wherein said polysaccharide carboxylic acid is carboxy starch.

Response to Office Action
Page 6 of 21

LEH-35-98
U.S. Ser. No. 09/493,891

23. (Previously Presented) A polysaccharide carboxylic acid lactone product made in accordance with the method of Claim 3, wherein said polysaccharide carboxylic acid is selected from the group consisting of carboxy- and carboxymethyl cyclodextrin, carboxy- and carboxymethyl starch, carboxy- and carboxymethyl chitosan, and pectin.

Response to Office Action
Page 7 of 21